## Abstract of the Disclosure

An electromagnetic gage sensing system having sensor heads positioned over each rail of a railroad track that measures both rail gage and height distance above the rails of a railroad track. Each sensor head includes an array of electromagnetic field generating coils and an array of electromagnetic field sensors positioned above each rail so as to extend substantially across the rail surface. A method of measuring gage distance is also provided in which lateral EM field output signal indicative of an edge surface of a rail is sensed.